

July 1, 1993

PRC

Mr. Stephen Chao/Ms. Camille Garibaldi
Department of the Navy
Western Division
Naval Facilities Engineering Command
900 Commodore Way, Building 101
San Bruno, California 94066-2402

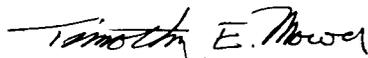
**Subject: Response to Regulatory Agency Comments on Final Additional Tank and Sump Field Investigation Technical Memorandum, Naval Air Station Moffett Field
CLEAN Contract Number N62474-88-D-5086, Contract Task Order 0170**

Dear Stephen and Camille:

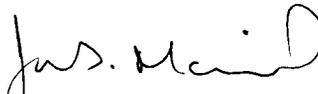
Enclosed are three copies of the above referenced response to comments. Additional copies are being forwarded to the regulatory agencies. The enclosed comments include four replacement pages to the final version of the "Additional Tank and Sump Field Investigation Technical Memorandum" prepared by PRC Environmental Management, Inc. on March 22, 1993. Two pages are data qualifier explanations that replace similar pages in Appendices B and C of the final report. The remaining two pages (Tables C-1 and C-3 of Appendix C) are included to correct transcription errors in the data qualifiers in these tables. These four pages should be inserted to replace those presented in the March 22, 1993 version.

If you have any questions, please call us at (303) 295-1101.

Sincerely,



Timothy E. Mower
Geotechnical Engineer



Joshua D. Marvil
Project Manager

TEM/drp

Enclosure

cc: Michael Gill, EPA
Elizabeth Adams, RWQCB
Cyrus Shabahari, DTSC
Fred Molloy, SAIC

Susanne Openshaw, NASMF (letter only)
Don Chuck, NASMF

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NAS MOFFETT FIELD ADDITIONAL TANK AND SUMP INVESTIGATION

RESPONSE TO COMMENTS ON

FINAL ADDITIONAL TANK AND SUMP FIELD INVESTIGATION TECHNICAL MEMORANDUM

JULY 1, 1993

This report presents point-by-point responses to regulatory agency comments on the "Final Additional Tank and Sump Field Investigation Technical Memorandum" prepared March 22, 1993 by PRC Environmental Management, Inc. (PRC) for Naval Air Station (NAS) Moffett Field, California. Mr. Michael Gill of the U.S. Environmental Protection Agency (EPA) submitted comments in a letter dated April 22, 1993; and Ms. Elizabeth Adams of the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) submitted comments in a letter dated April 20, 1993.

Comments from Mr. Michael Gill, EPA

GENERAL COMMENTS

Comment Number 1. EPA does not agree that enough investigation has been done to conclusively eliminate Sump 91 as a volatile organic compound (VOC) contaminant source. It appears that the analytical results from borehole SBS91-001 data are inconclusive. EPA does not believe that contaminants could have migrated upward through the moist plastic clay layer that exists between approximately 17 and 18.7 feet below land surface (BLS). It seems improbable that migration of contaminant through this layer is possible in either vertical direction. Therefore, Sump 91 should still be considered to be a potential source for trichloroethene (TCE) contamination. EPA believes that further investigation is necessary before a conclusion can be made.

It should be noted that in the "Horizontal Conduit Study Draft Field Investigation Work Plan," dated March 23, 1993, Sump 91 is referred to as

being in proximity to a "known source area". This appears in Section 5.1.1.2 (Wire Tracing) on page 18. This may be an improper conclusion, but its reference could not be overlooked.

Response:

The Navy plans to remove Sump 91 as part of operable unit (OU) 2-West removal activities. The "Draft Operable Unit 2 - West Remedial Design and Remedial Action Work Plan" describes options for remedial activities in the building 88 area in greater detail (PRC 1993b). Additional samples of the soils surrounding the sump will be collected and the extent of contamination, if any, around Sump 91 will be evaluated. These removal activities are currently scheduled for late 1993 or early 1994.

Because of its location adjacent to building 88, Sump 91 is in proximity to a known source area, that is, the general building 88 area. The reference to Sump 91 in the Section 5.1.1.2 of "Horizontal Conduit Study Draft Field Work Plan" (PRC 1993a) was only intended to indicate that piping to Sump 91 would be surveyed using wire tracing.

Comment Number 2.

The remaining concern deals with the uncertainty associated with the data validation procedures, originally presented in EPA's general comments of the draft document.

EPA requested documentation to support the data validation and laboratory quality control (QC) procedures. The Navy responded by stating that "all data...have been reviewed or validated by an independent validation firm..." and that "Appendices B and C have been modified to indicate this review." The only revisions made to Appendices B and C were the incorporation of data qualifiers, for both soil and groundwater. The data qualifiers do not correspond one-to-one with current Contract Laboratory Program (CLP) data qualifiers. Some are data validation qualifiers, while others are CLP laboratory data qualifiers. In addition, the combination of a "U-B" qualifier is applied in Tables B-1 and C-2. Use of this combination is "expressly prohibited" by the CLP "Statement of Work for Organics Analysis" (EPA 1991b).

The qualifiers "J-ED", "J-MD", "J-N", "BJ", and "JNB" are used in tables in both appendices; however, no explanation is provide to support their use. The last sentence of the data qualifiers key is a statement regarding the use of the "UJ-LS" qualifier. This qualifier is not in the key nor is it used in the tables in either appendix. It is stated that "UJ-LS indicates the sample quantitation limit is estimated because internal standard recoveries and surrogate recoveries are out of QC limits". At what point would the Navy's designated laboratory rerun these samples or recalibrate their instruments? What level of confidence can be placed on these values?

Not only should all data be presented in a manner that removes doubt as to its having been validated, but all qualifiers must be properly addressed if they are to be of utility in the data evaluation process.

Well W53-2(A1) in Table C-1 is flagged with a "B" qualifier beside the 9 micrograms per liter ($\mu\text{g/L}$) detection for TCE. The "B" qualifier is not presented in the key as a data qualifier. Use of the "B" qualifier as a CLP laboratory data qualifier indicates that the concentration detected is blank contamination. If this is blank contamination, is it from a field, laboratory method, or trip blank? How did it get there? TCE is not a common laboratory contaminant.

Response:

The validation process applied to the data presented in the report follows current EPA guidance for validation of CLP data (EPA 1991b). Nonhyphenated data qualifiers were applied by the analytical laboratory. Hyphenated data qualifiers were applied by the validation firm. The hyphenated qualifiers were used to provide additional explanation of the reason the data were qualified. The listing of qualifiers presented in Appendices B and C was incomplete and did not distinguish between laboratory and validation qualifiers. Revised explanations of the qualifiers specifically used in Appendices B and C are presented in Attachments 1 and 2 to this letter. These revised explanations indicate laboratory and

validation qualifiers separately to avoid the confusion created by presenting only one list. The appropriate revised list should be inserted in place of the "Key to Data Qualifiers" list contained in each appendix of the original final version of the "Additional Tank and Sump Field Investigation Technical Memorandum."

As indicated on page B-35 of the CLP "Statement of Work for Organic Analysis" (EPA 1991b), the analytical laboratory is prohibited from applying a combination of U and B qualifiers to data values. However, the validation firm may apply such a combination, if the use of the qualifier is explained (EPA 1991a). For the data collected during this investigation, the validation firm applied the U-B qualifier where appropriate. The explanation for the U-B qualifier is included in the revised lists of data qualifiers presented in Attachments 1 and 2 to this letter.

The analytical laboratories used by the Navy for sample analysis follow CLP requirements, including the laboratories' ongoing evaluation of performance criteria indicating that samples must be rerun or instruments must be recalibrated. Confidence in the data generated for this investigation is comparable to that which could be placed on any other data generated through similar analyses within the CLP.

An explanation of the B qualifier has been included in Attachment 2. For the particular analytical result for the groundwater sample collected from well W53-2, the B qualifier was applied by the laboratory because of the detection of 0.7 µg/L of TCE in the method blank associated with this sample. The Navy agrees that TCE is not a common laboratory contaminant. The TCE detection in the method blank may have resulted from instrument carryover from analysis of a previous sample that contained a high concentration of TCE.

Comments from Ms. Elizabeth Adams, RWOCB

GENERAL COMMENTS

Comment Number 1. Sump 91 is known to have contained solvents, and the sampling of the rinse residue from drainage tests showed the presence of TCE and 1,2-dichloroethene (1,2-DCE) in the sump. Therefore, Sump 91 is considered to be a known potential source for TCE contamination. There are no sidewall samples or samples directly below the sump to conclusively determine that no leakage has occurred.

Response: The Navy plans to remove Sump 91 as part of OU2-West removal activities. The "Draft Operable Unit 2 - West Remedial Design and Remedial Action Work Plan" describes options for remedial activities in the Building 88 area in greater detail (PRC 1993b). Additional samples of the soils surrounding the sump will be collected and the extent of contamination, if any, around Sump 91 will be evaluated. These removal activities are currently scheduled for late 1993 or early 1994.

Comment Number 2. The TCE soil contamination profile does not conclusively prove that Sump 91 was not a source or that groundwater contamination from upgradient sources is responsible for the soil contamination. If borehole SBS91-001 was directly below the sump, it is likely that the highest concentrations of contaminants would be found in the shallower soils below the sump and decrease with depth; however, this borehole is off to the side and the analytical results may be showing the expression of lateral movement of contaminants away from the source area. Additionally, the difference between the analytical results for TCE in soil samples from 12.5 and 15 feet, 160 parts per billion (ppb) and 550 ppb, is not great considering the margin for error within the approved analytical methods and laboratory practices. Of greater significance is that there is documented TCE

contamination in the soils at varying depths in an area of a known potential source.

Response:

The Navy recognizes the potential for concentration variations that may be caused by heterogeneities in the soil as well as variability in laboratory analytical methods. Additional samples collected after the removal of Sump 91 should provide more conclusive data to evaluate whether Sump 91 is a VOC contaminant source.

Comment Number 3.

TCE contamination from groundwater would be required to migrate upward through nearly 7 feet of fine-grained sediments (including 3.5 feet of clay) in order to impact the soils at 12.5 BLS. This requirement is complicated by the lack of any moist soil samples recorded from 15 feet upward to land surface. Though groundwater contamination could migrate through the capillary fringe into soils above the saturated zone, the likelihood of groundwater contamination impacting unsaturated soils 7 feet above the saturated zone is unlikely.

Due to the lack of conclusive evidence in the area of Sump 91, the San Francisco Bay Regional Water Quality Control Board requests that further investigation be conducted before Sump 91 can be excluded as a potential of soil and groundwater contamination in the area. The text of the Additional Tank and Sump Field Investigation Technical Memorandum stating that Sump 91 is not considered to be a VOC contaminant source should be changed to reflect the inconclusive nature of the analytical results from borehole SBS91-001.

Response:

As noted in the response to comment number 1, the Navy plans to remove Sump 91 and sample the surrounding soils to further evaluate Sump 91 as a VOC contaminant source. Sump 91 will be considered a potential VOC contaminant source until further investigations provide more complete soil characterization data.

REFERENCES

- PRC Environmental Management, Inc. (PRC). 1993a. "Horizontal Conduit Study Draft Field Work Plan, Naval Air Station Moffett Field, California." March 23.
- PRC. 1993b. "Draft Operable Unit 2 - West Remedial Design and Remedial Action Work Plan, Naval Air Station Moffett Field, California." April 9.
- U.S. Environmental Protection Agency (EPA). 1991a. "Contract Laboratory Program National Functional Guidelines for Organic Data Review, Multi-Media, Multi-Concentration (OLM01.0) and Low Concentration Water (OLC01.0)." June.
- EPA. 1991b. "Contract Laboratory Program Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration (OLM01.8)." August.

N00296.001893
MOFFETT FIELD
SSIC NO. 5090.3

ADDITIONAL TANK AND SUMP FIELD
INVESTIGATION TECHNICAL MEMORANDUM

DATED 22 MARCH 1993

IS FILED AS ADMINISTRATIVE RECORD NO.
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